

B1  
cont  
April 13, 1999, which is a continuation of U.S. Patent Application Serial No. 09/259,214, now U.S. Patent No. 6,110,719, filed March 1, 1999, which is a divisional of U.S. Patent Application Serial No. 08/910,798, now U.S. Patent No. 5,876,997, filed August 13, 1997, all of which are hereby incorporated by reference in their entirety.--

Replace paragraph [0047] beginning at page 14, line 9, with the following rewritten paragraph:

B2  
--The invention also provides phytase encoding polynucleotides having a nucleotide sequence substantially identical to SEQ ID NO:7, and having a modified nucleotide sequence selected from nucleotide 389 is G; 390 is A; nucleotide 437 is T; 438 is G; 439 is G; 470 is C; 472 is T; 476 is T; 477 is G; 478 is T; 689 is G; 690 is A; 691 is G; 728 is T; 729 is A; 730 is T; 863 is T; 864 is G; 1016 is G, or any combination thereof. Further, the invention provides a polynucleotide having a nucleotide sequence substantially identical to SEQ ID NO:7, and having a modified nucleotide sequence selected from nucleotide 389 is G and 390 is A (SEQ ID NO:5); nucleotide 437 is T, 438 is G and 439 is G (SEQ ID NO:6); 470 is C and 472 is T; 476 is T, 477 is G, and 478 is T; 689 is G, 690 is A and 691 is G; 728 is T, 729 is A, and 730 is T; 863 is T and 864 is G; 1016 is G, or any combination thereof. The later sequence is exemplified in SEQ ID NO:9 and the corresponding amino acid sequence is SEQ ID NO:10.--

Replace paragraph [0056] beginning at page 15, line 22, with the following rewritten paragraph:

B3  
--**Figures 7A and 7B** shows the nucleotide sequence of E. coli appA phytase (SEQ ID NO:7).--

Replace paragraph [0241] beginning at page 73, line 6, with the following rewritten paragraph:

B4  
--Examples of a variant phytase polynucleotide sequence include sequences substantially as set forth in SEQ ID NO:7, wherein the polynucleotide has a nucleotide sequence as set forth in a) SEQ ID NO:9; b) SEQ ID NO:9 wherein all Ts are Us (RNA); wherein the expression of the phytase-encoding nucleic acid leads to the production of said substantially pure phytase

B<sup>4</sup>  
enzyme; and c) SEQ ID NO:7, wherein 389 is G; 390 is A; nucleotide 437 is T; 438 is G; 439 is G; 470 is C; 427 is T; 476 is T; 477 is G; 478 is T; 689 is G; 690 is A; 691 is G; 728 is T; 729 is A; 730 is T; 863 is T; 864 is G; 1016 is G, or any combination thereof. More specifically, with respect to part c), the invention provides a nucleotide sequence substantially identical to SEQ ID NO:7, and having a modified nucleotide sequence selected from nucleotide 389 is G and 390 is A (SEQ ID NO:5); nucleotide 437 is T, 438 is G and 439 is G (SEQ ID NO:6); 470 is C and 472 is T; 476 is T, 477 is G, and 478 is T; 689 is G, 690 is A and 691 is G; 728 is T, 729 is A, and 730 is T; 863 is T and 864 is G; 1016 is G, or any combination thereof.--

Replace paragraph [0242] beginning at page 73, line 19, with the following rewritten paragraph:

B<sup>5</sup>  
--Examples of a variant phytase polynucleotide of the invention also include a polynucleotide that encodes a polypeptide having substantially as set forth in SEQ ID NO:8, but having an W68E, Q84W, A95P, K97C, S168E, R181Y, N226C, Y277D or any combination thereof and retain phytase activity.--

Replace paragraph [0246] beginning at page 75, line 10, with the following rewritten paragraph:

B<sup>6</sup>  
--An oligonucleotide of the invention can include a portion of a phytase polynucleotide, including, for example, a sequence substantially identical to that of SEQ ID NO:7, except wherein nucleotide wherein 389 is G; 390 is A; nucleotide 437 is T; 438 is G; 439 is G; 470 is C; 427 is T; 476 is T; 477 is G; 478 is T; 689 is G; 690 is A; 691 is G; 728 is T; 729 is A; 730 is T; 863 is T; 864 is G; 1016 is G, or wherein the oligonucleotide contains a combination of such substitutions with respect to SEQ ID NO:7. Thus, as disclosed herein, the oligonucleotide can be any length and can encompass one or more of the above mutations.--

In the Drawings:

Substitute one sheet of Figure 8 filed herewith for the original Figure 8 filed with the application.